

modelling the various parts of any one of the orders.

The entablature of any order may be made of any required length, by means of a wheel (turned out of hard wood) about six inches diameter, having the plain mouldings of each order (in reverse) turned upon it. It should revolve in a trough, passing backwards and forwards underneath, in the same manner as a mangle; all the small enriched mouldings to be made in a similar way, but in detached pieces, unless it should be found practicable to do them on the same wheel; and in that case, perhaps the metopes, mutules, triglyphs, &c. might also be done at the same time. But such ornaments as the modillion must be prepared in moulds, having loose sides and ends. It perhaps would be necessary, in such an order as the Corinthian, to have two wheels, one to prepare the way by compressing the compost and forming the mouldings plain, and the other to follow with the enrichments for those parts that require it; the architraves for windows, the mullions, transoms, and the various parts of the Gothic order, could all be moulded by wheels, and then bent into any desired form before the compost was dried. The shafts of columns should be prepared in a hard wood mould, made in three parts, so as to be more easily separated from the shaft. In moulding, roll the compost round a taper spindle half the diameter of the shaft, introduce it at the widest end, and then drive in the spindle, so as to compress the compost into all parts of the mould; when dry, withdraw it, and detach the sides of the mould. The base of a column may be prepared in a similar manner; the capital also, except in such as the Corinthian, when it would be necessary to mould the leaves, &c. separately, and then attach them to the cap. Suppose it was required to make a model of a church with a Doric portico of six columns (say of one inch in diameter), and the site 18 by 30 inches; in this case, I should make the sides and ends in single pieces, by rolling out and pressing the compost behind two boards, in which state let it remain until dry; I should then draw upon it, and if a Gothic design, lay out the windows with transoms, mullions, &c.; glue on the moulded ones, and then pierce the open spaces, which may be done as readily as upon paper, the position of the various parts, piercing openings where there were to be any. The compost cuts as clean as Bristol board, and with greater ease; and I have no doubt whatever that it would be admirably calculated for carving small statues, busts, &c.

The next step I took was to try the effect of a small model as exhibited in a miniature room, with the light admitted into it on the principle of the dioramas. The objects were viewed through a lens, and the illusion was so complete, that by a little stretch of the imagination, they appeared as if of great magnitude. If circumstances had permitted my devoting more time to the subject, I should have constructed a model exhibiting-room, eight feet by six, with a moveable platform in the centre, for raising, lowering, and turning the model round in any direction. The raising and lowering would shew the effect of the building upon a site more or less elevated, and also its appearance under various points of view; a little scenic representation, such as a background of trees, &c., would render the illusion complete. A set of columns (one inch in diameter), entablature, &c. of the various orders, would be very useful in lecturing, as a building might be erected before the eyes of the auditory.

You mentioned in one of the numbers of THE BUILDER, something about a museum of models, &c.; would not this papyrus compost, or something similar to it, be a suitable material for the purpose? Very shortly after I had made my original experiments (seventeen years ago, at which time I was resident in London), I shewed specimens of it to many persons; and about two years ago I gave some of the powder, and instructions to prepare the compost, to a gentleman who resided and practised as an architect in this neighbourhood, but he has since left, and I have not heard whether he has used it or not. Of course, much depends upon the individual: if he has mechanical as well as other ideas, and sufficient energy of character, all obstacles will vanish before his perseverance.

Of course this rambling communication is not intended for insertion in THE BUILDER in its present form, but if any part of it, or the substance of any part of it, should be deemed by you to be of sufficient importance, I can have no objection to its insertion.

THE BUILDER is gaining ground in Hull, and I think so highly of it, and the kindly feelings for which it is written, that I shall take every opportunity of recommending it: I have already done so on several occasions. The work will be eminently useful in one respect; it will imbue the small (and large ones too) master builder with a better taste in architecture. They are at present the designers of our wretched street architecture, but when a purer taste prevails, they will, with materials of the same quality, and the same in quantity, but a better dis-

position in the arrangement of them, produce designs that will be not only more ornamental, but also more valuable, as increased respectability in appearance will result from an improved style of building.

I have kept paper slavings in water for months without any appearance of decay. The compost should be well kneaded, and if covered with a damp cloth, it may be kept in a working state for a long time; when dry, a piece of it the thickness of a shilling would be difficult to break with the fingers.

With my best wishes for the success of THE BUILDER.

I am, Sir, your most obedient servant.

HENRY LIDDELL.

York Parade, Beverley Road, Hull.

May 20, 1843.

#### TO THE EDITOR OF THE BUILDER.

SIR,—I am somewhat puzzled to understand Mr. Bernhardt's logic in his last letter, inserted in No. 11; he, in the first place, positively says the plan for ventilation, &c. I gave in No. 10 is his, and then as positively declares that it will not answer, and that no copyist, as he pleases to term me and others, can carry it out with success; but why Mr. B. troubles himself about it, if it be not the thing, I cannot tell. The fact of the case appears to me to be this: Mr. B. introduces atmospheric air into his apparatus, which he warms and distributes; *si de i.* and so have others, long before we were born; but the manner of doing it appears to me to be the point at issue; of course very much depends upon that, otherwise it may prove a failure. Take, for example, wood-pavement, for which several individuals have taken out patents, with very slight variations, and all claim the pre-eminence. But time and wear alone will set the matter at rest. If such be the case in wood-pavements, why not in warming and ventilation? What I claim is, that mine is an original idea of my own, in applying the waste heat from the ordinary fire and making use of it, by means of the air-flue, to other parts of the building, and as the preventative of smoky chimneys.

I am happy to inform you, since my last, by means of the air-flue, in two cases I have been most successful, and both for gentlemen of high standing in the church and law. The first had one of Knot's patent descending stores fixed in his hall, which unfortunately did not answer; he had some of the most eminent chimney-doctors from town, &c., to make it act, and after expending a considerable sum of money, all their efforts proved a failure, when, by mere accident, I had an interview with him, and he was so satisfied with my statement, that he gave it into my hands, to act as I pleased, and the cure has been completely effected, the trial being made by burning the common coal, which was completely burnt through. I also introduced ventilators from the hall to the staircase, which the warm air completely ventilated, &c. The other was a chimney to a lodge just built, the chimney not being more than twelve feet high, surrounded by large trees, which after much trouble and expense, I cured by the same means. Mr. B. seems to think very lightly of practical men, and that it requires a man to be a philosopher, and I know not what, before he is capable of using the knowledge he has gained by long study and practice, and that he has no right to use the highest of all gifts his great Benefactor has endowed him with, and which he never intended to be cramped or constricted by any power, whilst kept in its proper and legitimate sphere; that is, the human mind. I assure Mr. B., regardless of consequences, I shall use mine in the best manner I am capable, at the same time taking care not to infringe upon the right of another. I thank Mr. B. for his information that some gentleman had been carrying out my plan, otherwise I should have remained in ignorance, at the same time wishing him every success. I also thank you, Sir, for the impartial manner in which you set towards all parties, and for the means of communication you have afforded your class.

I am, Sir, your obedient servant.

Richmond, May 17, 1843. J. P. HORN.

#### TO THE EDITOR OF THE BUILDER.

SIR,—Although much gratified by the report of the Master Carpenters' Society upon the Metropolitan Buildings Bill, I am somewhat disappointed in observing that they have done little more than touched matters of detail, and passed by, as if not within their province, affairs of much higher moment. If I trespass not, will you allow me space to draw attention to some provisions, which may affect, not builders only, but every possessor of house property, from peer to peasant.

It is on all hands allowed to be desirable that the present bill should be replaced by another, more in conformity with the times, and calculated to produce effects which were never contemplated by the existing law. Imperfect as it is, and smothered in its own redundancy of words, it has done much, nay incalculable good; it has stayed the march of an

all-devouring element. Let us not then kick the dying lion, while we hail the rising king.

This being an exceedingly difficult subject for legislation, it may be requisite to recur to the first principles of all legislation, and base criticism and propositions of amendment upon "justice between man and man."

There are two adverse and yet united interests to be considered: the welfare of the public has to be consulted, and the rights of property to be respected; both are interwoven, and act and react upon each other. That well-digested measure which shall equally consult both, is likely to work best, to be respected most, and to be most cheerfully abided by, simply because the interest of the public and of the proprietors will be common.

In the first principle of justice, the bill fails. Both sides have not been heard. The gentlemen who drew it up, actuated by the best motives, have legislated, in many things, with a very proper view to masses of houses about to start into being, but have strangely forgotten that London is "an old, old, very old" city, and that there are such strange interminglings of property within it, that their most beneficently intended measure may work the most bitter and cruel wrong. They have also very unaccountably forgotten that very many thousands of houses have grown up within the last seventy years, under a solemn act of the legislature, based upon a different system; and that, by subjecting them to the action of *ex post facto* laws, involving structural arrangements to which they cannot readily be adapted, the country will break faith with its own children.

If I look into the streets of the more ancient parts of London and Westminster, and compare them with clauses 20, 21, 22, 23, we shall soon perceive, that all attempts at improvement in widening many vile and narrow places, and in rebuilding old houses, will be paralyzed. How many houses in the best and most frequented thoroughfares, and on the most commercially valuable sites, have no back-yard whatever, and in how many would it not be absolutely impossible to leave a back-yard of one square superficial, and leave also sufficient space for a habitable house? Nay, Sir, look not to ancient structures; quietly ask the Government: to try Regent-street, and all the costly improvements which sprung from the rebuilding of London Bridge, and ask them to guess how many orphans, widows, and ay, peers and peeresses, would be sorely withered, if not absolutely ruined, by the effect of this measure. Add to the operation of these clauses, the effect of those which regulate the thickness of walls, especially as to third and fourth-rate houses (32, 53, 79, and 80), and of 66, which increases the bulk of chimneys in houses, which by the new law may cover 11 squares, 99 feet, as applicable to those which the present law has for seventy years forbidden to exceed three and a half, or five squares; and of 26, which interdicts building any house within fifty feet of any wooden building; and of that which condemns the whole of a wall, however sound three-fourths may be, if one-fourth be unsound. And think now instantaneously the selling value of my house, and every house, built either before the enactment of the present law, or strictly conformable to its provisions, but not conformable to a new law, will sink in the market. Indeed, Sir, one cannot conjecture what will be the depreciation of house property, if some righteous provision be not made for the protection of its owners.

I have been speaking of good property of all rates, upon which the blight will be the more deadly in effect in proportion as it is the more undeserved; for I have chiefly spoken of those who have strictly obeyed the law, who have studied and promoted the amenities and decencies of life, to the utmost extent which the sites of their possessions allowed. I now address myself to a class of property which ought never to have existed; but to which the present possessors (I omit the original builders, for they ought to have been hunted down like mad dogs) have, for the well-being of the state, as rightful a claim as any emperor has to the throne of his ancestors.

There are scores, perhaps many hundreds, of close, filthy courts, each with a row of small two-roomed houses, one room in depth, with no outlet whatever, and with only one or two privies at the end, exposed to passers-by, and common to all the inhabitants.

Clause 39 enacts that every house shall have its own privy, but it shall not be within the house. The owner cannot form water-closets, for that every piece of apparatus would be instantly stolen and converted into gin by some lurking vagabond. In nearly all such cases, it will be impossible to carry out the law, without destroying the property, and consigning the innocent owner to penury, and leaving the site open as a receptacle for the most revolting abominations.

There are but two other courses open in such cases: the one plain, honest, and straightforward.